BREVILLE SOUS CHEF FOOD PROCESSOR (BFP800XL)

M3 Design Heuristic Evaluation

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INTRODUCTION

M3 heuristic analysis process

What is a heuristic evaluation?

A heuristic evaluation is an usability assessment tool that M3 utilizes early in product development. It helps researchers, designers and engineers identify usability problems related to how the product functions and interacts with the user. The evaluator meticulously inspects the product and judges its compliance to predetermined usability and design criteria – the heuristics.

Why is it useful to you?

M3 heuristic evaluation serves 3 key purposes:

1. Learn from your competition – a method to create head-to-head comparisons to your competition, and understand the pros and cons of each product
2. Improves decision making - allows the development team to quickly and thoroughly understand how well a product performs to establish usability and design criteria for new product concepts
3. Concept evaluation tool – a highly efficient scoring tool used to assess multiple concepts during development to objectively rank concept alternatives

INTRODUCTION

M3 heuristic analysis process

How does it work?

M3 experts analyze a product against 9 evaluation criteria divided into 3 key stages . Each criteria is evaluated on a 5 point scale based on how the product behaves and what it communicates to its user. The results indicate how close to the 5-point optimum the product is designed from a human-centered perspective.

Refer to "Evaluation Data Reference" section for detailed explanation of each stage and its associated criteria

HEURISTIC EVALUATION

Breville Sous Chef Food Processor

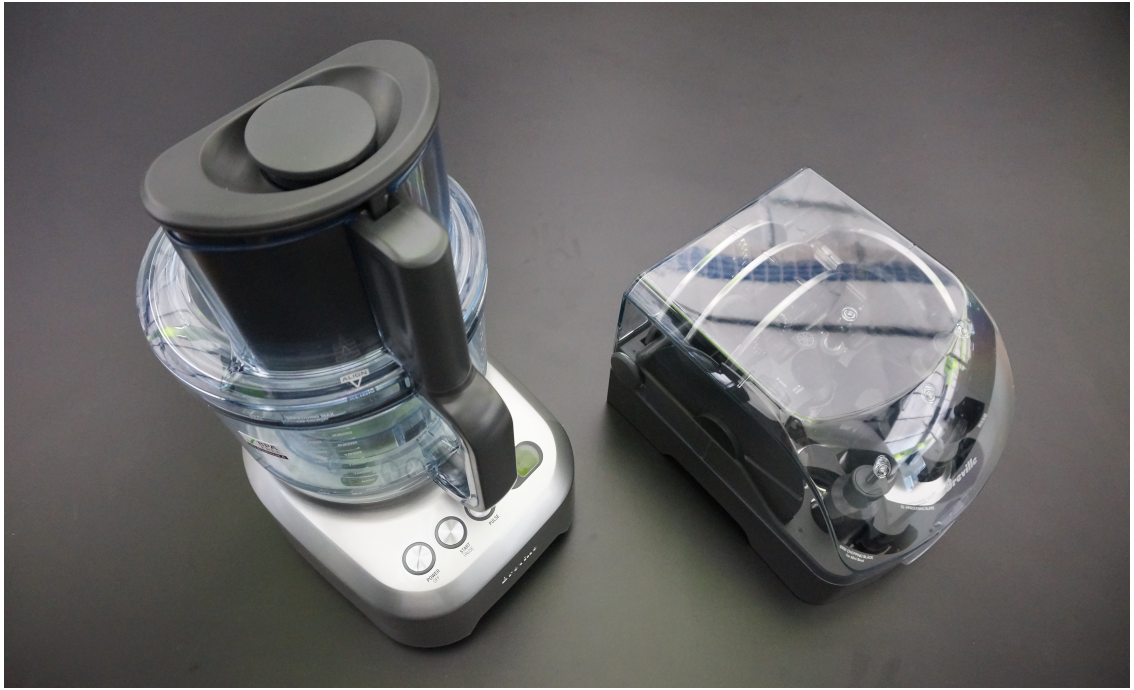
HEURISTIC EVALUATION

Breville Sous Chef Food Processor

Every cook loves cool kitchen gadgets that help them cook easier, cook faster, and cook smarter. A food processor is the perfect example - a highly versatile kitchen helper that chops, slices, shreds, grinds, and purees almost any food. Some more expensive models can even make fruit and vegetable juice, beat cake batter, knead bread dough, beat eggs, and grind meat!

With such a lengthy list of impressive capabilities, one must wonder how easy or challenging it is to setup and use such a product. Assuming few users use every feature every day, designing a food processor that is highly intuitive and simple to use is critical to delivering a great user experience.

M3 has chosen a mid-high-end model to see how it fares against our heuristic criteria.



EVALUATION SUMMARY

Breville Sous Chef Food Processor

EVALUATION SUMMARY		USABILITY & DESIGN CRITERIA	SCORE *
IMPRESSION	Overall appearance is appropriate and is as expected for this type of product in this price range. The corporate design language has been executed thoughtfully well; faithfully communicating the function and its usability story. Use of materials, colors, and labels & markings are mostly appropriately considered. Generally, the system is simple, and easy to understand. Other than a few minor issues and inconsistencies, initial impressions of the product was certainly positive.	AESTHETICS	4
		SIMPLICITY	4
		LANGUAGE	4
ENGAGEMENT	The majority of controls and user touch-points are very well considered. Overall usability is relatively straightforward, and easy to use. There are many thoughtful touches on the product that will delight the user. User feedback from most touch-points has been designed and considered to some level. Have said that, several usability and safety shortcomings prevented the product from achieving full marks in this category.	APPROPRIATENESS	4
		FLEXIBILITY	4
		FEEDBACK	4
EXPERIENCE	While the product and user touch-points are well considered, the wide variety of cutters and spindle assemblies are definitely the system's weakest link. Minimal instructions and limited usability cues on how to assemble the cutter to the container requires a hint of educated guesswork, and does not inspire confidence and safety from the user's perspective. It is also irritating that minor mistakes cannot be easily solved, causing some confusion within the workflow. However, the rest of the product is still well designed, simple, and looks good doing it.	ERROR PREVENTION	3
		RECOVERY	3
		CONSISTENCY	4

* Scoring System

1 = Does not meet minimum usability and design considerations
2 = Meets minimum usability and design considerations
3 = Meets some of the usability and design considerations
4 = Meets most of the usability and design considerations
5 = Meets optimum usability and design considerations

EVALUATION SUMMARY

Breville Sous Chef Food Processor

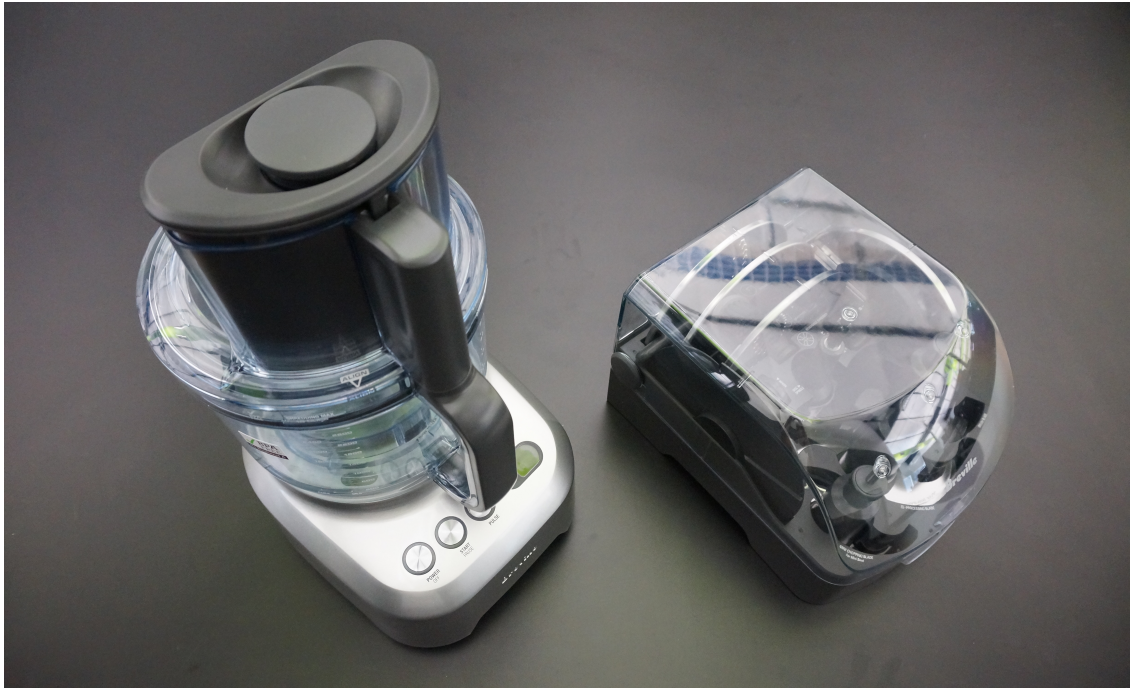
Final Average Score

3.8

(out of 5)

M3 Heuristics

Meets most of the usability and design considerations



STRENGTHS

Key elements that should be embraced or improved upon

- Distinctive design language that is well executed and consistently applied
- Well implemented usability story throughout the system
- Simple labels and markings to ensure good communication and ease of use
- Good use of materials and colors give the product a professional and premium appearance
- Outstanding feedback on all primary user touch-points
- Thoughtful conveniences throughout the product, such as cable management, plunger as measuring cup, and rubber feet under container
- Good safety lock-out feature
- All accessories and tools are stored inside storage box

Back lit buttons offer status indication, and controls are easy to wipe down and clean.

Excess power cable can be tucked inside of base out of sight.

Thoughtful ergonomic detail on the base ensures overall handling is a delightful experience.

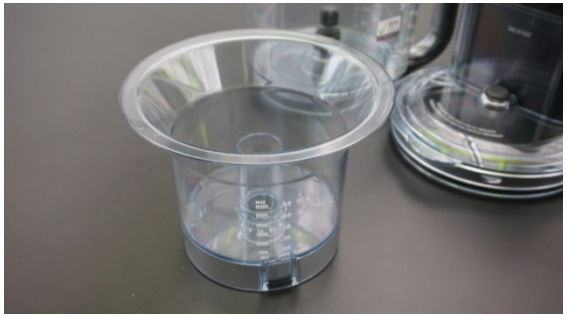
Supplied accessories reside in separate storage case to minimize risk of missing tools, and maximize hygiene when not in use.

OPPORTUNITIES

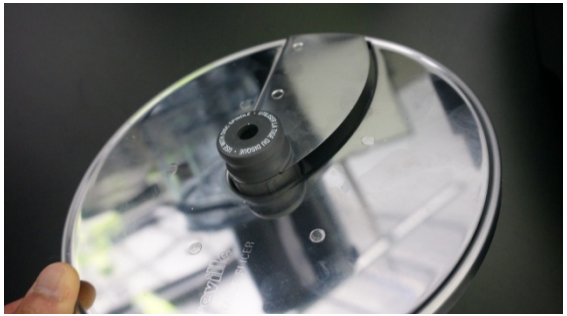
Key elements that should be reconsidered and redesigned

- All alignment features and markings must be clear, appropriately sized, and obvious to the user during interaction
- User safety is always a high priority – all sharp blades must be protected or directed away from the user during interaction
- Containers must hold content securely and chance of spillage must be considered and avoided
- Unnecessary gap on the plunger / hopper fitment should be reconsidered to avoid user mental model confusion
- All user touch-points should share the same interaction / mental behavior to avoid user confusion and potential damage to product

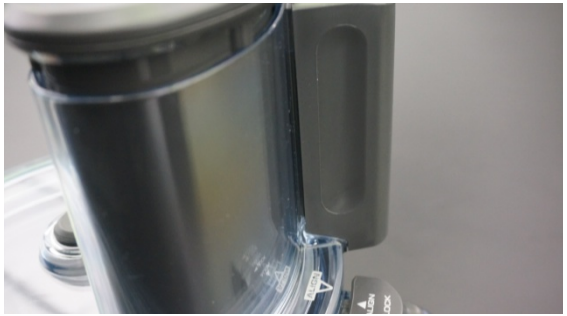
Alignment indicators are provided on lid and container, but the small graphics are often over-looked during interaction.



Small container design is not fully enclosed, which allows ingredient to easily escape during and after processing.



Risk of finger cuts on exposed blade during adjustment of the adjustable slicer



Confusing mental model, where the plunger design will not fully sit in hopper after it bottoms out inside.

EVALUATION DATA REFERENCE

01 IMPRESSION
Evaluation Guidelines

The impression stage of a product experience in where the product conveys its look, feel and functional details. At this stage users formulate an overall perception of the product. This is where certain judgments are made about the perceived level of simplicity or complexity, and initial assessments of how usable the product is for it's intended use.

AESTHETICS	SIMPLICITY	LANGUAGE
Conveys appropriate look & feel - functional form and purposeful details	Overall perception of product, visibility of information, and level of complexity in terms of product interaction	Use of natural and logical words, labels, meaningful colors, and logical interactions
Considerations: • What does the overall appearance say to you? • Is the form appropriate for its intended purpose? • Is it "form follows function" or "style over substance"?	Considerations: • Does the product details convey a sense of simplicity? • Is the product over-loaded with complex and confusing details? • Are product information (e.g. brand, labels, buttons) clearly visible and readable? • Does the product guide you through its use and operation?	Considerations: • Does the product communicate its use and operation in simple easy-to-understand terminology? • Are the touch-points all well labeled and identified in a logical concise format and language? • Are the product colors telling you something?

01 IMPRESSION
Evaluation Worksheet

AESTHETICS	
Conveys appropriate look & feel - functional form and purposeful details	
+	−
• Look and feel is appropriate to its purpose and product is instantly familiar • High-end and well-made – looks like it's worth the asking price • Industrial looks – for the professional kitchen • Well-considered soft curved form looks easy to clean • Colors of metal and plastic parts are very nice – speaks to premium and professional • Base design is simple and well thought-out (foot, venting, cable management, labeling, branding) • Clear plastic parts are appropriate and provide visual feedback	• Big bulky appearance (but understandable) • Looks clunky • Plastic teeth on motor coupling interface look weak – questioning its durability over time • Chrome cutting blades are prone to finger-print marks after handling

01 IMPRESSION
Evaluation Worksheet

SIMPLICITY	
Overall perception of product, visibility of information, and level of complexity in terms of product interaction	
+	−
• Product appears highly simple to use • Alignment indication throughout the product looks straightforward and easy to understand • Multiple layers of clear plastic on the container assembly does not look complicated or intimidating • Controls appear simple and straightforward	• Large array of accessories and tools in storage box can look rather daunting for the first time users

01 IMPRESSION
Evaluation Worksheet

LANGUAGE	
Use of natural and logical words, labels, meaningful colors, and logical interactions	
+	−
• Labeling on controls are well-sized, clear to read, and easy to understand • Use of colors, form, fonts and graphics are consistently presented • Accessory storage box is well labeled for easy identification of tools • Excellent use of distinct shapes in the accessory box to ensure tools and accessories can be perfectly arranged and stored every time • Font style of choice on product is modern and high-tech • Most accessories and tools are labeled • All user touch-points on product are considered at some level	• Not all accessories and tools are labeled • LCD readout looks rather basic and cheap • LCD timer readout does not provide unit indication • Inconsistent use of terminologies between product and instruction manual

02 ENGAGEMENT

Evaluation Guidelines

The engagement stage sets out to assess specific characteristics of the product in use. Users at this stage judge how well it feels and functions in relation to its intended use. This is where users assess the object's ability to provide feedback, and adapt to changing users and/or environmental conditions.

APPROPRIATENESS	FLEXIBILITY	FEEDBACK
Interaction is in context and relevant to the product - conveys a sense of familiarity and appropriate mental model	Use of product is efficient and adaptable, based upon different users and environmental influences	Product communicates its intentions at all times in regards to its state, mode, action, status, mistake and error, etc.
Considerations: • Does the way the product is used and operated make any logical sense in its given context? • Does the product feel appropriate and relevant during use?	Considerations: • Does the product adapt to your needs, or do you need to adapt to the product? • What happens if more than one person uses the same product? • Can the product work efficiently under other intended environments and scenarios?	Considerations: • Does the product validate and confirm all interactions during use? • Does the product notify the user on operation status? • Does the product notify the user when there's an error? • How does the product notify the user when a mistake has been made? • Does all touch-points communicate its state and intentions?

02 ENGAGEMENT (1)
Evaluation Worksheet

APPROPRIATENESS

Interaction is in context and relevant to the product - conveys a sense of familiarity and appropriate mental model

+

- Cut size control adjustment on the adjustable slicer is a nice feature
- Fine and coarse shredding options on one shredder cutter is clever
- Primary use/operation mode is simple and straightforward
- Installation and setup of cutter is relatively straightforward
- Integrated low cost cable management in base is considerate and relatively well implemented
- Integrated rubber feet stop the product from moving during use
- Integrated bumper feet on the bottom of the small container shows great care and attention to detail in terms of usability
- Dimple feature under plunger helps stabilize food during plunging
- Small plunger doubles as a measuring cup
- Large and small plunger option is versatile for food and liquid input
- Plastic containers and parts have no unusual or bad smell
- Operating sound and running noise is good at an appropriate audible level

−

- Container lid touch-point is not a thru-hole, so it's occasionally difficult to grasp
- Plunger design prevents the plunger from being completely inserted in hopper
- Small plunger does not stay inside of large plunger, potentially dropping the small plunger upon removal from container
- Container lid alignment is easily missed, and lid could be forced on even if not aligned correctly during assembly
- Plunger is not cleanable in a dishwasher
- Inconsistent rotational travel between base + container and lid + container leads to alignment confusion
- Container handle blocks controls on base, and potentially line of sight upon assembly to base
- No storage solution for small container if only the large container is used

02 ENGAGEMENT (2)

Evaluation Worksheet

APPROPRIATENESS	
Interaction is in context and relevant to the product - conveys a sense of familiarity and appropriate mental model	
+	−
• Small container is stored inside large container after use • Nice and short beep sound upon completion of cycle is not annoying • Provided spatula is a nice touch, and appropriately designed with a semi-rigid edge for easy scooping • Provided brush is a nice touch, with a useful dual purpose handle design • Custom power plug with finger thru-hole for easy removal	• Adjustment knob on adjustable slicer is too small, and user's fingers are too close to exposed sharp blade during adjustment • Adjustment knob on adjustable slicer is located on the underside, and requires multiple steps to re-adjust after it's installed on product • Spinning cutting blade does not stop immediately after power off (even after the container lid is removed) • Only the adjustable slicer has a safety warning marking • Red blinking power button is confusing – nothing happens upon interaction • Button interaction behavior is inconsistent • Power button label is confusing to interpret during use • Most cutting blades have too many crevices which make it very difficult to clean well • Food debris escapes out of the small container to the large container while in use

02 ENGAGEMENT (3)

Evaluation Worksheet

APPROPRIATENESS	
Interaction is in context and relevant to the product - conveys a sense of familiarity and appropriate mental model	
+	−
	• Small container has an open center, and food easily spills out unintentionally • Large container often releases from base when user only wants to release the lid • Product powers up immediately upon assembly of the container when the product is engaged in pause mode (user is startled)

02 ENGAGEMENT
Evaluation Worksheet

FLEXIBILITY	
Use of product is efficient and adaptable, based upon different users and environmental influences	
+	−
• Large array of accessories and tools available for almost any food prep needs • 2 plunger size options to make solid food and liquid insertion easily • Small container option • Product allows up to 2 different attachment/cutter options in the large container	• Product has no variable speed or dual speed control

02 ENGAGEMENT
Evaluation Worksheet

FEEDBACK

Product communicates its intentions at all times in regards to its state, mode, action, status, mistake and error, etc.

+

- Every user touch-points have some form of feedback
- Removal of container lid has the perfect amount of resistance that communicates a feeling of “quality”
- LCD timer readout is useful
- LCD readout provides basic but helpful status indication when user needs it
- Nice and short beep sound upon completion of cycle
- Clear plastic parts provide visual feedback on how the parts break out and how the product works

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- Loose and shaky spindle assembly does not inspire reliability
- Loose cutter assembly inside container is scary when powering up for the first time every time
- No feedback as to how much to rotate during container removal
- Large container can be incorrectly inserted on to base without any indication or warning
- Product powers up immediately upon assembly of the container when the product is engaged in pause mode (user gets startled)

03 EXPERIENCE
Evaluation Guidelines

The experience stage sets out to assess a products ability to deal with or avoid error conditions. Users at this stage assess its ability to correct its mistakes. Finally, this stage is where users judge how well the product delivers consistency across its user touch points and performance.

ERROR PREVENTION	RECOVERY	CONSISTENCY
Product prevents problems before it happens	Ability to correct mistakes - reversible actions and states	Consistent delivery of Aesthetics, Language, Relevancy, and Feedback
Considerations: • How well does the overall product prevent user error from happening? • How easy does the touch-points allow mistakes to be made?	Considerations: • Is it possible to recover from the mistake? • How easy is it to correct the mistake?	Considerations: • Is the overall look & feel and context of use consistently conveyed throughout the product(s)? • Is the use of language, icons, and colors consistently delivered on the product(s)? • Does all the interaction/ touch-points share the same or similar usability story? • Does the product consistently provide meaningful feedback no matter what and where the user is interacting?

03 EXPERIENCE
Evaluation Worksheet

ERROR PREVENTION	
Product prevents problems before it happens	
+	−
• Product will not run without plunger in hopper • None of the cutters can operate when assembled up side down (cannot close lid)	• For safety reasons, user must remember not to remove lid right after operation when the cutter is still spinning • No indication of how cutters should be inserted without referencing the instruction manual • Large container can be incorrectly inserted on to base without any indication or warning • Container lid could be forced on to the container and get jammed, if not correctly aligned during assembly • No indication that whisk must be used with spindle • No indication that whisk must be pressed down on to spindle before use

03 EXPERIENCE
Evaluation Worksheet

RECOVERY	
Ability to correct mistakes - reversible actions and states	
+	−
• More than one way to stop cycle while in operation mode • Easy to stop cycle while in operation mode • Easy to add more ingredient if user forgets during cycle	• Needs brute force to remove a jammed container lid if assembled incorrectly • Difficult to adjust the adjustable slicer once the cycle begins (multiple steps to remove adjustable slicer and adjustment knob becomes slippery to grasp) • Exposed blade on adjustable slicer is poorly designed and located, could potentially cut user's fingers during adjustment • Confusing if user cannot figure out that whisk must be pressed down fully on to spindle if food does not get whisked

03 EXPERIENCE
Evaluation Worksheet

CONSISTENCY	
Consistent delivery of Aesthetics, Language, Relevancy, and Feedback	
+	−
• Food processor is well considered and designed through-out; touch-point details are appropriate, consistent, and thoughtful • Consistent use of fonts, colors, graphics, and branding • Excellent feedback on user touch-points • Control interface and food processor design language is consistent with rest of company product portfolio	• Spatula design does not follow the overall product design language • Accessory storage box design could be further refined to better reflect the overall product design language • Inconsistent rotational travel between base + container and lid + container leads to alignment confusion

m3
Heuristics